

REMARKS/ARGUMENTS

Claims 13, 28–31, and 33–77 are pending in the above-captioned application. Claims 13, 28–31, and 33–45 stand rejected. Claims 46–77 have been withdrawn from further consideration. With this paper, claims 30, 31, 33, and 34 have been amended. No new matter was added with the amendment.

I. Claim Interpretation

The Examiner states on page 2 of the current Office action, “As specified in applicant’s specification defines a venting element is a cavity, channel or any other equivalent. As such any cavity or channel open to the environment and associated with another element may be considered a venting element” Applicants respectfully submit that this is not a correct restatement of Applicants’ definition. Referring to page 8, lines 26–31 of the specification, “As used herein, a ‘venting element’ refers to an element ... which intercepts bond voids that form between substrate surfaces during bonding processes to prevent such bond voids from affecting specified regions on the substrate surfaces by directing the forming voids away from those regions.” The elided text, “such as a cavity, a channel, or other functionally equivalent feature,” is set off by commas, signaling by grammatical convention that this is a nonrestrictive phrase modifying (but not limiting) the term “element.”

With regard to the Examiner’s comments directed toward the alternative language of claim 29, Applicants have amended claims 30, 31, 33, and 34 to positively define elements being included in each claimed fabrication element.

II. Claim rejection under 35 U.S.C. § 102(b) as being anticipated by Sethi et al. (US 4,891,120)

Claim 13 was rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Sethi et al. (US 4,891,120). This rejection is respectfully traversed. “[F]or anticipation under 35 U.S.C. § 102, a single reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present.” MPEP § 706.02. “The identical invention must be shown in as complete detail as is contained in the . . .

claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, USPQ2d 1913, 1920 (Fed. Cir. 1989).

As demonstrated above, Applicants’ definition of a “venting element” is an element that “intercepts bond voids that form between substrate surfaces during bonding processes to prevent such bond voids from affecting specified regions on the substrate surfaces by directing the forming voids away from those regions.” See page 8, lines 26–31 of the specification. This definition is further supported within the application on page 3, lines 13–16: “In overview, the invention includes disposing venting elements in substrates to intercept bond voids that form during bonding processes and to direct those forming voids away from specified regions of the particular device.”

At a minimum, Sethi et al. do not teach a venting element that intercepts bond voids. In fact, Sethi et al. are silent with regard to bond voids. The reference describes either setting a Pyrex® glass cover plate over channel structures formed in silicon wafer material or bonding the cover plate to the silicon wafer material anodically or with an adhesive (column 4, lines 24–30); however, there is no mention of problems resulting from bond voids or possible solutions to any such problems.

Further, Sethi et al. do not teach regarding reducing thermal coupling between portions of their device or of maintaining a “stagnant vapor region.” Instead, the channels of Sethi et al. are described as having the function of “containing a predetermined volume of a liquid or solid material for a chromatography test or separation procedure.” See the abstract. If the channels of Seth et al. **maintained** a “**stagnant** vapor region,” they would be quite useless. Note that “maintain” is defined by *Merriam-Webster’s Online Dictionary*, 10th Edition, as “to keep in an existing state” or “to continue or persevere in”; and “stagnant” is defined by the same source as “not flowing in a current or stream” or “not advancing or developing.”

Thus, Sethi et al. do not teach every aspect of the claimed invention either explicitly or impliedly, nor do they show the identical invention claimed by Applicants in independent claim 13, and certainly they do not show an identical invention in as complete detail as is contained in that claim. Withdrawal of the rejection of claim 13 under U.S.C. § 102(b) as being anticipated by Sethi et al. is, therefore, respectfully requested.

III. Claim rejections under 35 U.S.C. § 102(e) as being anticipated by Dubrow et al. (US 6,756,019)

Claims 13, 28–31, and 33–45 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Dubrow et al. (US 6,756,019). This rejection is respectfully traversed.

With regard to independent claims 13 and 29, at a minimum Dubrow et al. do not teach a venting element that intercepts bond voids. Like Sethi et al., Dubrow et al. are silent with regard to bond voids, problems resulting from bond voids, or possible solutions to any such problems. *See*, for example, column 10, lines 4–15, for a discussion of bonding a cover layer to the body structure. A primary concern of Dubrow et al. was, instead, preventing adhesive from getting into device ports or contacting assay components disposed within these ports. *See*, for example, column 10, lines 30–33.

Dubrow et al., like Sethi et al., are silent with regard to reducing thermal coupling between portions of their device. In fact, Dubrow et al. specifically state that one of the advantages of microscale systems is “**enhanced** thermal transfer between heating sources and the reagents in the device.” *See* column 1, lines 25–27, emphasis added.

Thus, Dubrow et al. do not teach every aspect of the claimed invention either explicitly or impliedly, nor do they show the identical invention claimed by Applicants in independent claims 13 and 29. Withdrawal of the rejections of claims 13 and 29 under U.S.C. § 102(b) as being anticipated by Dubrow et al. is, therefore, respectfully requested.

Claims 28, 30, 31, and 33–45 depend directly or indirectly from independent claim 29. Therefore, Applicants respectfully submit that these claims are allowable for at least the same reasons as set forth herein with respect to independent claim 29. Withdrawal of the rejection of dependent claims 28, 30, 31, and 33–45 under U.S.C. § 102(e) as being anticipated by Dubrow et al. (US 6,756,019) is respectfully requested.

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Chazan, et al.

Reply to Office Action of June 2, 2005

Conclusion

For the foregoing reasons, Applicants believe all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned attorney.

Respectfully submitted,



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Signed: _____

